DOCUMENT RESUME

ED 353 212 SP 034 164

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TITLE Critical Thinking and the Psycho-logic of Race Prejudice. Resource Publication Series 3, No. 1.
INSTITUTION Montclair State Coll., Upper Montclair, NJ. Inst. for Critical Thinking.
PUB DATE 90
NOTE 25p.; For other documents in this series, see SP 034 165-167.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Attitude Change; Cognitive Psychology; Cognitive Structures; *Critical Thinking; Educational Environment; Educational Principles; Elementary Secondary Education; Intervention; *Racial Bias; *Schemata (Cognition); *Teaching Methods; Thinking Skills

ABSTRACT

For those who espouse critical thinking as an educational ideal, the issue of race prejudice should be addressed as an obvious and pernicious example of uncritical thinking because to hold racially prejudiced beliefs is to believe without being appropriately moved by reason. This paper attempts to ascertain how and where critical thinking can come to grips with race prejudice by: (1) developing a notion of critical thinking that offers guidance, (2) elaborating on those aspects of the issue that seem to offer possible areas for remediation of prejudiced attitudes through critical thinking, and (3) offering plausible suggestions about how prejudice reduction can be accomplished. Three modes of analysis relevant to critical thinking have been followed by psychologists and sociologists in their explorations of racial prejudice. These modes focus on: world views or transmitted systems of belief reinforced through socialization, faulty generalization based on cognitive processes, and underlying psychodynamic structures. This paper focuses on the pedagogy of the cognitive approach; it reviews central tendencies in the accounts of prejudice offered by cognitive psychologists, with emphasis on the structures and operations that underlie stereotyping. Critical thinking education for remediation of race prejudice must be characterized by the orchestration of information and experience and informed throughout by an awareness of actual and preferred cognitive strategies and the criteria that warrant them. (IAH)

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Critical Thinking and the Psycho-logic of Race Prejudice

Mark Weinstein

Institute for Critical Thinking
Resource Publication
Series 3 No. 1

1990

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Institute for Critical Thinking

Resource Publication Series
1990

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The Institute welcomes suggestions for our resource publication series, as well as for our other activities. Correspondence may be addressed to us at

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CRITICAL THINKING AND THE PSYCHO-LOGIC OF RACE PREJUDICE

Mark Weinstein

1. Critical thinking and race prejudice

The relation between critical thinking and race prejudice can be made obvious, once we grant that race prejudice cannot be supported by good reasons. For, if, as Harvey Siegel (1988) has pointed out, critical thinking is being "appropriately moved by reasons," then holding racially prejudiced beliefs is to believe without being appropriately moved by reasons, thereby being, in this regard at least, an *uncritical thinker*. A practical corollary of this, for those of us who espouse critical thinking as an educational ideal, is that it is incumbent upon us to speak to the issue of race prejudice, an obvious and glaringly pernicious example of uncritical thought that affects one of, if not the most, central social and ethical issues of our times.

Siegel's notion and its corollaries offer us direction, but they offer little guidance as to how to continue, for race prejudice, during the decades in which it has been studied, has been seen to be a mare's nest of psychological and social factors, a complex of cognitive and affective elements that reflect information processing (Hamilton, 1981) as well as economics (Baran and Sweezy, 1966); socialization (Ehrlich, 1973) as well as personality (Adorno, et. al. 1950). Students of the phenomenon have addressed psycho-sexual issues (Bettelheim and Janowitz, 1960) as well as prejudiced individuals' attempts to mask race prejudice using universalistic moral principles (McConahay, 1986), the role of mass media (Hartmann, 1974), contemporary culture (Jones, 1986) religious ethics (Feather, 1984) socio-biology (Barker, 1981) and the contemporary politics of social class (Gordon and Klug, 1986). Obviously an appeal to the critical spirit, however necessary, takes us but a little way into the thicket of our concerns.

This paper attempts to ascertain where and how critical thinking can come to grips with the problem of race prejudice. The first task will be to develop a notion of critical thinking that may offer guidance, the second is to elaborate those aspects of terrain that seem to offer possible areas for remediation through critical thinking. Then and only then will it make sense to offer some plausible suggestions as to how prejudice reduction can be accomplished.

An obvious candidate for a critical thinking treatment into race prejudice is the approach favored by Robert Ennis (1987) who has identified particular critical thinking dispositions and skills that appear to be relevant to the issue. The approach in terms of particular dispositions and skills interfaces nicely with much of the social and psychological research on prejudice since, frequently, the very definition of race prejudice involves the

critical thinking skill of generalizing, its fallacy, stereotyping, as well as a critical thinking disposition, fairmindedness (Allport, 1954).

There is, however, an immediate problem with working with this approach. Even the earliest definitions of prejudice that are parasitic on such apparently simple logical skills as generalizing have pointed to a degree of cognitive complexity that far transcends the standard logical analysis of the skill and its correlative fallacy. Study after study point to models of information management that support stereotyping and that defy remediation through such logical devices as the presentation of counterexamples (Ehrlich, 1973). This is especially the case when the prejudiced person is required to reflect upon his own prejudices through the examination of individual experience: that is, where the prejudiced individual is asked to bring to bear on his stereotypes his own observations, categorizations and memories (Rothbart, et. al., 1984). Not only is a prejudiced thinker unwilling to reflect seriously on the alternatives to his point of view but, in advocating stereotypical prejudices, he employs his full cognitive capacities in a way that brings relevant support to his position. The race prejudiced person is more than simply uncritical in refusing to examine his own belief systems in contrast to alternatives. Rather he is the prototypical "weak sense" critical thinker (Paul et. al., 1988) constructing a self-serving picture of the world, seeing only those of his own experiences that reinforce his point of view (Snyder, 1981).

The notion of weak sense critical thinking is, of course, taken from the work of Richard Paul, whose espousal of critical thinking as an educational ideal and of moral critique as a necessary component of critical thinking has been at the center of the critical thinking movement (Paul, 1984). Paul's central position in the movement is based, to a considerable extent, on his notion of "strong sense" critical thinking. Paul insists that the social and moral objectives for which critical thinking is advocated require that students learn to apply critical tools to the beliefs that they themselves espouse. This requires an awareness on the part of each individual of the social and psychological factors that bias his judgments. Egocentrism and learned ethnocentric perspectives are the main targets against which critical thinking is to be aimed (Paul, 1987). Paul's view is clearly consistent with the bulk of psychological and sociological research on race prejudice. But, as we shall see, this research makes Paul's program more difficult than it otherwise might seem. To see this, we must turn to some of the essential details of the account developed by Paul in his quest for educational practices whose goal is strong sense critical thinking.

In a recent article Paul (1988) describes a number of the conditions under which critical thinking, as opposed to didactic education, can take place. His views are echoed in their essentials by many other authors in the movement (see, for example, Lipman et. al, 1980), and find commonality with those of many educators interested in reducing prejudice through classroom activities (Sapon-Sheven, 1988; Gabelko, 1988). Among the crucial components of critical thinking education that Paul identifies is the

requirement that students see knowledge as "generated, organized, applied and analyzed, synthesized and assessed by thinking." He claims that "knowledge and truth can rarely, and insight never, be transmitted from one person to another by the transmitter's verbal statements alone," and that "people gain only the knowledge that they seek and value." Finally, and most essentially, he maintains that "the personal experience of the student is essential" for critical thinking instruction (Paul, 1988). Similar requirements are found throughout the discussion of prejudice and education (Gabelko and Michaels, 1981). But, as we shall see, although necessary, such requirements are problematic in light of the research of cognitive and social psychologists that point to the prejudice inherent in the cognitive structures that students bring to the classroom, especially when the basis for cognitive tasks is personal experience that includes the affective and motivational aspects that Paul sees as essential for critical thinking. For, as we shall see when we review the available literature below, the experience that students have is structured both socially and cognitively, so that prejudicing data is observed first hand by them, is embedded in categories that support prejudice, is preferentially available to recall, and has salience in the world views that students bring to schools. This is not to say that prejudice cannot be remediated, rather it is to point up the apparent need for complex interventions that can deal with the complexity of the cognitive structures that need to be replaced if critical thinking is to have an effect in reducing prejudice.

As we shall see, the difficulties (and the possibilities) involved in an approach that takes the lived experience of students seriously requires a theory of critical thinking adequate to the detail and complexity with which lived experience is cognized. I believe that such an account of critical thinking has been developed by Matthew Lipman at the Institute for Critical Thinking. Lipman's notion takes criteria as its core, where "criteria" may be taken to refer to those determining reasons upon which judgments are based. On Lipman's account, critical thinking is thinking whose object is judgment, that is reliant on criteria, that is sensitive to context and that is self-correcting (Lipman, 1988). This analysis offers an enormous yield in helping us to focus our task, for it places at the center of the exploration of prejudice those determining reasons, both substantive and methodological, that undergird prejudiced judgments. It further requires that we carefully consider the context within which these judgments are made and, most importantly, demands that the criteria in use be subject to self-correction in the light of analysis and criticism. Such a notion of critical thinking can serve us both in our exploration of the criteria used to form prejudiced judgments, and in the ways such criteria are differentially employed in particular circumstances. Last, the focus on the criteria used to develop and sustain prejudice may offer clues to strategies that may be available for altering such prejudice-inducing criteria and their application through critical thinking strategies in educational contexts. Our first task is then to examine the criteria in use in making prejudicing judgments, that is judgments that reflect and support prejudice.

One additional word before we begin. There is a fundamental continuity between the philosophical basis of the critical thinking movement and that of the vast majority of those concerned with prejudice as a social evil. This continuity consists of a belief in the dignity of persons and the rights of all human beings to fair and equitable treatment. Aspects of the philosophical foundations of critical thinking have been carefully articulated by Harvey Siegel (op. cit.). Siegel argues that the nature of personhood itself requires that students be treated as autonomous and rational agents. Although this seems unexceptional in light of similar philosophical sentiments underlying much work in the analysis of prejudice, the concept of autonomy places strictures on the strategies available for prejudice reduction through critical thinking. That is, if rational autonomy is to be achieved , it cannot be the result of coercion, psychological manipulation or the willful presentation of falsehoods. Therefore, prejudice reduction, if an outcome of critical thinking, must be based on rational persuasion, that is, students must be helped to see prejudice as not only disapproved of, but rationally indefensible.

2. The psychology of race prejudice

There are three lines of research relevant to critical thinking that have been followed by psychologists and sociologists in their explorations of prejudice. Social psychologists and sociologists (for example, Rokeach, 1960; Sherif and Howland, 1961; Ehrlich, 1973) have focused on the role of socialization in promoting global points of view, what one of the earliest advocates of critical thinking, Kahane (1980) using the language of social theorists, calls *world views* (see Habermas, 1981). World views are transmitted systems of belief that are reinforced through socialization and supported by social systems that determine and reward the forms of interaction between social groups. Cognitive psychologists, (for example, Brigham, 1971) and many critical thinkers have focused on prejudice as a function of *faulty generalization* (for example, Moore and Parker, 1986). In this view, prejudices and the stereotyping behaviors that reflect them are based on cognitive processes that result in generalizing from non-representative instances to the characteristics of a group. The final mode of analysis has involved the *underlying psychodynamic structures* that relate prejudice to such depth-psychological factors as lack of self-esteem and sexual fears (Bettelheim and Janowitz, 1964; Pettigrew, 1981; and see Adorno, et. al., 1950).

Each of these modes of analysis can be paired with characteristic kinds of educational intervention. When the world view is seen as the operating cause, an obvious course to take is to change the world view. This may involve developing an information rich environment that presents non-prejudiced images of stereotyped and victimized groups (Sonnenschein, 1988). Such information can be reinforced with explicit attention to value judgments and the identification of inappropriate behavior (Byrnes, 1987). Although there is evidence of the effectiveness of such didactic strategies (Litcher and Johnson, 1969), there is also evidence that shows such

approaches to be sensitive to the influence of factors outside of the control of the school itself (Lessing and Clarke, 1976). An apparent danger of such approaches, seemingly unexplored in the literature, is the extent to which, even when successful, didactic information becomes just so much more "school talk." The fear is that even with the best of intentions, a climate of tolerance and equity, if limited to didactic contexts, will have a limited effect on students' daily lives and on their most deeply held convictions (see Radest, 1988).

Distinguishable from didactic attempts to change world views are those efforts that involve students in interactions that themselves require the absence of prejudice. School and social integration are obvious form of this. However, more significant attempts involve the active participation of students in projects with multi-racial groups (Slavin, 1980; Conrad, 1988). But as we shall see, there is evidence that where prejudices exist, multi-racial contact may itself reinforce inter-group bias (Rose, 1981).

The pedagogy of the cognitive approach is at the heart of the present volume, and much of what needs to be said will, hopefully, be found in its pages. Debbie Walsh (1988), reprinted here, offers the following, based on D'Angelo (1971), as the key critical thinking dispositions: intellectual curiosity, objectivity, open-mindedness, flexibility, being systematic, persistence, decisiveness and respect for other viewpoints. She recommends a climate of trust and respect, a community of inquiry, a balance between teacher talk and student talk, encouraging success and self-esteem, and emphasis on thinking about thinking as methods to promote critical thinking dispositions. There is no quarrel with such recommendations. It will be the task of the next section of this paper to explore the cognitive psychological literature in an attempt to discover how to best address these aims.

The psychodynamic approach will not be dealt with directly, since it seems both unlikely and unwise for schools to engage in activities that are therapeutic in a medical sense since schools are institutions where choice is minimal and where participation in activities is rarely discretional to a degree that therapeutic intervention requires. This is of particular concern where therapeutic intervention takes place in groups, since in such cases the membership of the groups should reflect both patient choice and careful professional assessment. It appears quite inappropriate for students to be placed in pre-determined groups, whose function is education and then have those groups be used as a vehicle for psychological intervention in any significant sense.

We must recall, however, a basic insight that the psychodynamic approach affords: that there is considerable evidence that affective components play a significant role in the development and perpetuation of prejudices, and that, in particular, self esteem seems a salient variable in prejudice reduction. Further, as Richard Paul has maintained, the exploration of thoughts that underlie feelings is a legitimate aspect of

critical thinking (Paul et. al., 1988). Psychotherapy may very well be excluded from schools but, if we are to remediate prejudice the affective core that plays a role in its durability needs to be taken into account in both cognitive and socio-cultural theories of prejudice and prejudice reduction.

3. The psycho-logic of race prejudice

We now turn to a review of central tendencies in the accounts of prejudice offered by cognitive psychologists and especially of the cognitive structures and operations that underlie stereotyping.

Central to this approach is the general principle that individuals in their social relations are seen as members of groups, and in particular in terms of in-groups and out-groups, that is groups with which individuals identify (in-groups) and groups with which no such identification occurs (out-groups)(Allport, 1954; Wilder, 1981). From its beginning, the scientific study of prejudice has included the assumption that groups are to be understood in terms of characteristic traits (Katz and Braly, 1933). Rothbart, Dawes and Park (1984) offer a summary account of the available literature which identifies five essential factors in the cognitive structures that affect out-group/in-group differentiation:

a. In-groups and their characteristic traits are perceived as more desirable and more natural (ethnocentricism).

b. In-groups are perceived as being more varied in the traits that characterize them, that is, there is more individual variation in the categories employed to describe and explain the behavior of in-group members (out-group homogeneity).

c. Out-group members are characterized at a higher level of abstraction; characteristics cited in description and explanations tend to be less specific then those used for in-group members (level of categorization).

d. Out-group members are characterized as more extreme, both in their differences from in-group members and in the characteristics attributed to them. That is, labels applied to out-group members carry more extreme affective or evaluative tone (contrast and accentuation).

e. Obviously related to the four preceding factors: out-group members' behavior is encoded differently than that of similar behavior of in-group members, and the behavior is encoded in a manner that reflects stereotypes and prior expectations (differential encoding).

The result of cognitive processes of the sort identified by Rothbart and his colleagues is that the processing of information about out-groups results in particular kinds of misconceptions. Out-groups are seen in particular ways and these perceptions tend to reinforce extreme stereotypes. David L. Hamilton is notable among the cognitive psychologists who have studied the mechanisms through which stereotypes are reinforced through the differential perception and comprehension of the behavior of out-group members. Hamilton (1981a) attempts to account for the assimilation of experience to stereotypes. He presents the result of extensive empirical research that points to "illusory correlations" (Chapman, 1967) as the basis for stereotyping and assimilating new experiences to prior stereotypes. He maintains that errors in judging correlations generate systematic biases, and identifies a number of factors that include the following:

a. In a group that is infrequently sampled there is an overestimation of the frequency of unusual behavior. This results in accentuation, seeing out-groups as more different from in-groups than they actually are, as well as seeing differences manifested through more extreme behavior. It should be noted that this is true of infrequently sampled groups in general (out-groups, of course, are less frequently sampled by in-group members than are in -groups) and occurs even in cases where the infrequently sampled groups are constructed so that they do not elicit emotional or socially constructed prejudicial schema.

b. The frequency of behavior consistent with prior out-group stereotypes is over-estimated even more. Note again, this is independent of the affective tone of the stereotype. That is, it holds both for positively and negatively evaluated stereotypical characteristics.

c. When the stereotype is reinforced by affective or motivational concerns, the degree of over estimation of frequency and accentuation is greatest.

The account offered creates serious problems for prejudice reduction through critical thinking if critical thinking pedagogy requires that students' experience play an essential part in their coming to critical and autonomous judgments. For illusory correlations and the cognitive operations and structures that they support affect perception, categorization and recall. Thus, illusory correlation offers an experimental basis that confirms stereotypes. That is, from the point of view of the prejudiced person, their prejudices are warranted by their lived experiences and so stand against the anti-prejudicial tone of instruction in school.

It should be remembered at this juncture, that conceptual and perceptual bias in the name of stereotypes is deeply rooted in cognitive operations in general. It mirrors the well- known tendency to seek and find confirmations and to disregard disconfirmations, even in the most neutral

cognitive tasks (Wason and Laird-Johnson, 1965; see Nisbett and Ross, 1980 or an available summary). Stereotyping and the selective retention of information mirrors the equally well-known tendency to over-estimate the frequency of easily remembered information (the availability heuristic, Tversky and Kahneman, 1973). Finally, disregarding particularities in out-group members reflects the general tendency to use dispositional explanations for others, while employing situational accounts for ourselves, and those we know most well (fundamental attribution error, Storm, 1973; and see Nisbett and Ross, 1980).

It would seem that the cognitive apparatus itself is so structured that stereotypes and biases are more natural than fair-minded assessments of the relevant facts, particularly when the issue concerns out-groups. But it is not only cognitive processes, internal to the individual that support prejudice; the concepts and information structures through which prejudice is sustained are themselves sensitive to prejudicing social determinants as well.

The concepts that make up stereotypes are constructed using trait designators that have great "absorbing power" (Rothbart, 1981). That is, they are concepts for which no particular amount of disconfirmation implies the inappropriateness of the label. Such concepts can absorb disconfirming instances without becoming inapplicable themselves. Personality traits such as *treacherousness, greed, self-centeredness, and shiftlessness* can be applied to individuals despite evidence to the contrary, since they do not imply that any particular observation will settle the case against them, but many possible future instances are available to confirm the appropriateness of their attribution to an individual (Rosenenhan, 1973).

The social structures we inhabit, like the conceptual schemes we use, further bias us towards stereotyping and prejudice. The information base upon which social groups are understood are themselves deeply biasing. An analysis of the information context within which out-groups are sampled (Rothbart, et. al. 1984) results in the following:

a. The in-group is known with greater intimacy. This is most true of the most closely defined in-groups, family and friends, but is still sufficiently salient in respect of large in-groups such as citizens of a country.

b. Out-group members are more often seen in situations that themselves accentuate deviant behavior. The classic example of this is a study of white policemen in black neighborhoods whose prejudice is reinforced by their focus on criminal behavior performed by blacks (Lyons,1970). The phenomena is not limited, however, to such extreme cases. We do not see out-group members in our private and peaceful moments, we see them when driving, when shopping on crowded streets and at public gatherings. And so we see them in contexts that promote

anonymity and thus we have available to us only the most undifferentiated and abstract characterizations, the characteristics that structure our stereotypes. When the stereotypes are activated, the result is accentuation and illusory correlation. We notice deviance and over-estimate frequency: teenagers are noticed talking loudly, ghetto families at picnic areas with food strewn about, Jews arguing, about business to be sure, Blacks threatening, Hispanics loud and somewhat salacious, White ethnics loud and drunk at sporting events.

c. Contact with out-groups is itself stress-producing and so reinforcing of affect-driven prejudice.

Rose (1981) points up that even experiences that disconfirm prejudices are stress- inducing, since they cause reevaluation of attitudes that are damaging to self-esteem. In our society prejudice is officially disapproved. People are unwilling to express overt prejudices (Katz et. al, 1986). To be proven wrong, even if only to oneself, creates tension, whence anxiety and lack of self-esteem. Their work, confirming the role of prejudice in determining the nature of social interactions themselves, emphasizes that contact with out-group members is reported as unpleasant in and of itself. Anxiety is caused by prior expectations as well as by relative unfamiliarity and lack of confidence in the reliability of those expectations to serve as predictors of behavior.

The analysis of the cognitive structure of prejudice and stereotypes has included the analysis of attitude and attitude change. Palmerino, Langer and McGillis (1984) present two basic attitude structures that have relevance to the cognitive remediation of prejudice. They distinguish between dyadic and triadic attitude schemata. The first, dyadic attitude schemata, sees attitudes as the relation between the person who holds the attitude and the object of which the attitude is held. In a dyadic, person-object schema the attitude is seen to be completely determined by properties of the person and the object. The alternative and cognitively more open structure is triadic, the relation between the subject and object is seen to be essentially determined by the context. With triadic, person-object-context attitudes the person has the possibility of a mindful approach to his own attitudes, and since the attitude is not determined by the person's response to the object alone, there is the possibility of significant change. Palmerino, et. al. (ibid.) see a number of critical thinking structures as available once attitudes are conceptualized triadically. Critical thinking strategies are seen as reinforcing context dependency. The critical thinking strategies they list are standard ones, including: identification of assumptions, open and rational dialogue and perspective-taking. In addition, they add focusing on newly emerging data, awareness of biasing errors, forewarning students of their tendencies towards bias and the development of adequate inductive models.

Such interventions, especially as informed by recent insights in critical thinking theory and method, certainly have a prima facie plausibility, since they each address an obvious aspect of the phenomenon of prejudice seen as based on cognitive operations. But can such factors help? What does research tell us about the deconstruction of attitudes? Possible answers come from the analysis of belief change in terms of the theory of cognitive schemata (Crocker, Fiske and Taylor, 1984). In their account, stereotypes can be viewed as schemata (complex structures of ideas that include interrelationships among components). Once attitudes are seen as based on schemata, there are general aspects of schemata that render them susceptible to change. Schemata are dynamic structures: they include criteria that determine the relevance of new information and inferential relations among their component parts. Through the analysis of their internal structure, it becomes possible to identify the points that enable them to function as information processing devices.

Schemata are networks of categories (often called "variables" in the psychological literature). They can be seen as constructed in two dimensions, vertically, referring to the depth of embedded categories, and horizontally, in terms of the diversity of categories (sub-categories) at a given level of the schema. Schemata include categories that admit of a ran[illegible] of values, they also include "default parameters," values assigned in t[illegible] absence of factual information. Included as well are "dynamical relations," relations that carry properties down or across the structure of a schema. Dynamic properties of schemata include inferential and causal relations as well as relationships of comparison and contrast. Given even this small number of abstract properties, notions of schema change are definable.

Schemata change by:

a. adding new variables (horizontal or vertical categories);

b. changing default values (values for categories that are not assigned in experience);

c. extending or limiting the range of values assigned to variables;

d. weighting contrasting variables so as to accentuate or ameliorate contrast;

e. altering inferential and other nesting relationships or causal relationships.

It is generally maintained that schema change is, at least to some extent, a function of incongruent information (Hastie, 1981). Although the bulk of research has focused on the resistence of schemata to change (see, for example, Fiske and Taylor, 1984; and again, Nisbett and Ross, 1980),

recent work has begun to see schemata themselves as possible instruments for changing beliefs (Crocker, Fiske and Taylor, 1984). The claim is that schemata, by exhibiting the internal structure of the set of related beliefs through which information is processed, expose that point at which the cognitive pressure of incongruent information will have an optimal effect. The role of incongruent information is similar in logical function to the relationship of counter-examples to generalizations, and to the critical examination of stereotypes in terms of their adequacy to the phenomena they purport to describe. But even in contexts as sensitive to counterexample as scientific experiment, resistence to incongruent information is not only common, but frequently part of a prudential methodological stance (Kuhn,1962). Kuhn's model has been used to understand the persistence of social stereotyping (Rothbart, 1981).

A detailed account of belief change and persistence in the face of incongruent information has been offered by (Crocker, et. al., op. cit.). They first offer an account of the availability of incongruent information for processing. Research tends to show that incongruent information will be processed as a function of:

a. current processing load;

b. organization of schematic material (schemata relevant to the information presented must be available and well-understood);

c. motivation.

Given that incongruent information will be processed, the question is: what prompts the assimilation of incongruent information to already existing schemata, and how can we facilitate the accommodation of the schemata to the incongruent information instead? There have been three models offered for schema change, whether by assimilation or accommodation. These are:

a. the book-keeping model, where the stability of the schema or its elements is a function of piecemeal confirmations. Either incongruent information qualifies aspects of the schema or it affects their credibility.

b. the conversion model, where the schema resists change until a point where incongruent information causes a radical shift or rejection of the schema as a whole;

c. the subtyping model, in which a schema splits into independent subschema, so that incongruent information is taken as relevant to only a portion of the phenomena that the schema describes. Thus, the remainder of the schema survives intact. Although it is not clear which of these types of schema change are most relevant to prejudice reduction, examples of all types are readily constructible both from examples in the literature and from the common experience of individuals changing their views.

Although the bookkeeping and conversion models may create serious problems for prejudice reduction (the "books" may not be kept fairly and conversion may occur rarely or irrationally), it is the subtyping model for schema change that seems to be of the most educational concern. Subtyping creates a serious problem for the standard display of exceptional members of out-groups as a school strategy for reducing prejudice. Exceptional members may fall under a group category, but they are distinguished in terms of their special status in a fashion that has little or no effect on the schema as a whole. Subtyping permits students to shift their prejudices from all members of a group to a subset of the group (perhaps the majority) and thus, permits them to resist the force of school-generated counterexamples designed to remediate prejudice. The majority of out-groups members, to whom prejudice is addressed are neither the heroes lauded in their textbooks and displayed in posters on school-room walls, nor are they buddies on the football team or co-inquirers in collaborative learning projects.

The analysis of subtyping also points to the shallowness of an analysis of generalization on the model of universal quantifications. If generalizations are viewed as universal statements in the logical sense, they imply that the generalized property is universal in a class and relevantly similar across all class-members. A similar problem infects the analysis of universal statements in traditional logic, where they are seen to define a "kind," a group that is distinguished as sharing an essential core of properties (Barth, 1974). Such logical analyses may constitute a desirable norm, but they offer little insight into the psycho-logic of generalizating, that is the logic that governs the way generalizations are actually employed. It is all too easy to love Bill Cosby and hate blacks.

Research points to a number of factors as being relevant to the persistence of schemata. Schemata that are the most resistant to change are:

a. well developed schemata;

b. inaccessible schemata; and

c. vague and ambiguous schemata.

Schema change appears to be a function of:

a. optimally discrepant data, data that is both comprehensible in terms of the schema, but yet clearly inconsistent with it;

b. unambiguous data;

c. data that is varied both in terms of content and source; and

d. new data.

4. Critical thinking and the remediation of race prejudice

The account given here of the psycho-logic of race prejudice is thin in a variety of ways. First the summary statements of claims, whether descriptive or explanatory, offer little evidence to the reader of the wealth and variety of studies upon which the summary statements are based. Next, the experiments cited and the theoretic analyses described are themselves both methodologically and theoretically diverse. Many of them have been at the focus of significant disputes, and contested interpretations appear in many of the summary analyses cited here. Last, any psychological study exists in a multi-dimensional space of theories, and approaches; thus, no tradition can be said to have the last word.

Even though I have not addressed the issue of the stability and reliability of the studies upon which I base my sense of the trends in understanding prejudice, there appears to be a lesson to be learned from the accumulated thrust of the various claims presented. For if my account is at all representative of the facts of the matter, what has been presented furnishes critical thinking theorists and practitioners with a particular image of the terrain. Notice that I am not claiming that the issue as described makes critical thinking an unsuitable vehicle for prejudice reduction, for there are obvious continuities between critical thinking and the phenomena described in empirical studies. The empirical trends presented, however, should qualify our sense of the ease and the naturalness with which critical thinking strategies can be applied to affect prejudicial beliefs and attitudes.

What seems to me to be required, if the phenomena presented here are to be addressed, is that advocates of critical thinking begin to compare the universe of prejudice as described by cognitive psychologists with the apparatus available from critical thinking. The "apparatus" of critical thinking is complex in itself. Critical thinking includes concepts and strategies, methods of analysis and characteristic objectives; it includes epistemological and ethical norms, tacit or overt psychological and other empirical claims, and an underlying theory of the person and of education, including characteristic recommendations for practice.

The first question to be addressed is: which notion of critical thinking is an available tool for addressing the complex empirical realities that the research literature appears to identify? Without going into an elaborate comparison of prevailing views, I would like to recommend the view of Lipman (1988) presented above. His definition of critical thinking places the notion of judgments as based on criteria at the center. On his view, criteria may be thought of as "decisive reasons with regard to the matter at hand." A subset of the available reasons, criteria are "especially relevant to an ongoing inquiry (and have) a record of reliability" (Lipman, 1989). Criteria are to be applied with sensitivity to the context of application and the whole structure of criteria and their application in context is to be governed with an awareness of the possibility and desirability of self-correction (Lipman, 1988).

The notion of criteria as the basis for judgment affords us a rich probe into the schema that individuals use in organizing data. As mentioned above schemata are active structures that govern both the content they organize and the inferential relationships between content items. They constitute a cognitive structure that, itself, affords criteria for all aspects of information processing. They determine what is relevant, and therefore what will be noticed; they determine which categories are available for the organization of experience, and they furnish a model for sequencing and causation. The notion of criteria permits the organizing principles of schemata to be identified, it points to the tacit principles upon which the schema themselves are based. Further schemata are applied in contexts, the situation determines which aspects of the schema are determinable by experience and which are to be assumed by default. The notion of context sensitivity offers a critical parallel to the functioning of schemata as information processing devices. It enables the critical thinker to analyze schemata and the behavior that they induce, and thereby to identify the relationship between individuals and their experience as determined by the application of a schema in the context of its use. Last, schemata are applied in circumstances that resist them. Incongruous information, often disregarded, is highlighted by a critical thinking approach since it requires the reevaluation of the criteria through which the schema is applied, if the schema is shown to be internally incoherent or inadequate to the domain of its application.

To summarize: Lipman's definition permits us to see critical thinking as a tool for analyzing both the schemata themselves and their stability (rigidity) in response to contextual factors that might conflict with their appropriateness and applicability. Most essentially, Lipman's approach requires that schemata be looked at through the criteria that govern their change, in terms of methodological principles that govern their accommodation to new data (Lipman, 1988).

The discussion of Lipman's analysis, to this point, is all too general. What is needed is some specifics to serve as an example. The examples offered, as it will turn out, provide the possibility of movement in the

direction of prejudice reduction through critical thinking; but they simultaneously expose serious problem areas that require the careful attention of critical thinking advocates.

Take as an initial example, the recommendation by Palmerino, et. al. (op. cit.) that critical thinking permits individuals to be *forewarned of typical, but unjustified, modes of data processing*, for example, perceiving illusory correlations. Clearly this is an appropriate concern for critical thinking , even though the term "forewarning" itself has not been commonly used, since it involves making individuals aware of inappropriate criteria (e.g. sample size, accentuation, consistency with prior stereotypes) in judging correlations among attributes in members of out-groups (see, Johnson and Blair, 1983, for a similar perspective on informal logic). Not withstanding the affinity of the notion of forewarning with central critical thinking concerns, such as metacognition, the notion of forewarning raises obvious problems that must be resolved if it is to be used effectively in school settings. The problem is to determine who should be forewarned of what and how. Obvious choices are pupils and teachers, but clearly the information available from cognitive psychology permits of a variety of presentations and not all of these are readily comprehensible to many individuals or groups. A possible task for the critical thinking movement is to incorporate forewarnings of data biasing processes into materials for use in teacher training and to work collaboratively with teachers to develop strategies that make the problem of illusory correlations understandable to students at particular grade levels.

For another example, take as a fundamental critical thinking skill the *identification for criticism of biasing schemata*. This is recommended as a strategy for schema change (Rose, 1981) and is a natural extension of the analysis of arguments and the assessment of reasons that is at the heart of much recent work in critical thinking. But again, a question needs to be answered: which prejudicing schemata should be identified for critical appraisal? The individual student's? Characteristic samples of some relevant kind? Historical or contemporary social scientific reconstructions? All of them? And which ones with particular populations of students and school contexts?

Schema change is resistant to *information that is not optimum*, that is, information that is either assimilable into the schema, without requiring change, or information that is so discrepant with the schema that it cannot be processed (information whose relation to the schema is unclear). This requires that the students' prejudicial schemata form the basis of inquiry, and that some credence at least be afforded the constructions that students bring to school with them. This is certainly consistent with critical thinking, especially "strong sense" critical thinking (Paul, 1984). But is it consistent in a classroom whose climate prohibits the parading of race prejudice and the language that supports it? (See Weinstein, 1988 for a similar discussion in another context.) Can we permit the presentation of students' prejudiced views and the psychologically and culturally compelling, even if biased,

anecdotes with which they are supported? If we cannot, can we hope to convince students of our own fairmindedness in response to issues about which we and they differ as a matter of deep principle without showing our own willingness to give an open-minded hearing to their point of view?

One last example: schemata are open to change in light of *data that is varied*, both in its nature and in its source. The natural response to this demand is to furnish students with a wide variety of information on race and race prejudice and require a similarly diverse sampling of critical thinking activities. But this may not resolve the problem, for critical thinking lessons are, whatever else, lessons in school. School work, conceptualized by teachers as including particular concepts and requiring particular skills, is conceptualized by students, indifferently as an "academic task" (What do I have to do? How do I have to do it? How will it be graded?)(Oxman, 1989). Can we hope to make students critically reflect on their own beliefs, if the only counterbalance to their beliefs is information and procedures that carry the label "school"? The task for critical thinking is to present itself so that it is seen as more than just a school activity, more than just the demands of the teacher, to be acquiesed to under threat of evaluation and disregarded when that threat is no longer apparent.

The examples just discussed point to possibilities and problems for educational interventions. They are presented as a sample of what needs to be explored if we are to effectively address the other aspects of cognitive processes thought to be relevant to prejudice reduction through schema change. There is an issue, however, included in all of the specific examples I have chosen, that speaks to one of the central concerns of educational reform through critical thinking. Critical thinking advocates demand that education address students as autonomous learners; judgments must be presented to students with a basis in good reasons and in light of defensible criteria. Central to this process is the involvement of teaching and learning with *students' lived experience*. But that, of course, given what we have seen, creates an enormous problem, for students' lived experience reinforces bias by furnishing data that confirms past prejudices.

How to deal with students' experience is an issue that critical thinking advocates cannot bypass. There seem to be at least three available strategies. The first is to address the students' experience directly, exposing it and challenging the adequacy of the constructions that individual students place upon it. The second is to enrich students' experience by presenting for their consideration, the experience of others, whether in the form of first hand reports in the classroom or in the form of narratives in contemporary media, literature, history or sociology. The last option is to construct alternative experiences by involving students in activities with out-group members that, hopefully, will challenge their assumptions and recollections. All of these options have been advocated by educators interested in prejudice reduction, and all reflect stratagies available in the critical thinking literature. Each seems to have advantages and disadvantages, although decisions as to which is best implemented where and with whom,

requires the continuation of the research agenda that assesses the pedagogical efficacy of educational strategies to reduce prejudice. There is, however, a number of points that can be made in anticipation of empirical findings.

Critical thinking requires that, whatever strategies are used to address students' experience, students be helped to become aware of their experience as actively constructed according to principles of evidence and assessment. That is, students must be helped to see both the criteria that underlie their beliefs and the criteria through which their beliefs can be appropriately modified. Such a project is at the heart of all critical thinking instruction and must be integrated into whatever form education for prejudice reduction will assume. The task is, thus, neither the mere presentation of alternative information and experiences, nor the inclusion of principles of sound empirical judgment, whether presented in the abstract or with examples irrelevant to the issue of prejudice. Rather, the orchestration of information and experience, informed throughout by an awareness of actual and preferred cognitive strategies and the criteria that warrant them, must characterize critical thinking education for prejudice reduction.

Students must see their biasing experiences as of a piece with the structured information and activities that comprise their schooling. Critical thinking must serve to knit together school and outside world. To teach for prejudice reduction without showing the direct relevance of what is taught to life outside of school is to invite the formation of two cultures: a culture characterized by the language of equity and tolerence in the classroom and a culture of racial prejudice supported by the lived experience of the students in the remainder of their daily lives. The classroom must serve as a forum for discussion and research, for collaborative interaction and self -assessment. If done with care this can result in the self-esteem that is universally held to be a determining variable in the reduction of prejudice. If done with thoughtfulness and integrity this should help to build the higher -order cognitive skills that have been seen to play a similar role in prejudice reduction. And so, as many of the papers included in this volume demand, critical thinking for the reduction of prejudice is part of the general task of schooling for intellectual autonomy and for a commitment to reason.

The research summarized here is presented as a framework for understanding both the magnitude and the complexity of the task of reducing prejudice through critical thinking education. The continuing research program in critical thinking, tied to carefully evaluated practice, offers the promise of changing the fabric of human understanding. Prejudice is part of the educational problem to be solved. Critical thinking may very well constitute a significant element in the continued effort to educate people for rational participation in an increasingly humane social order.

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